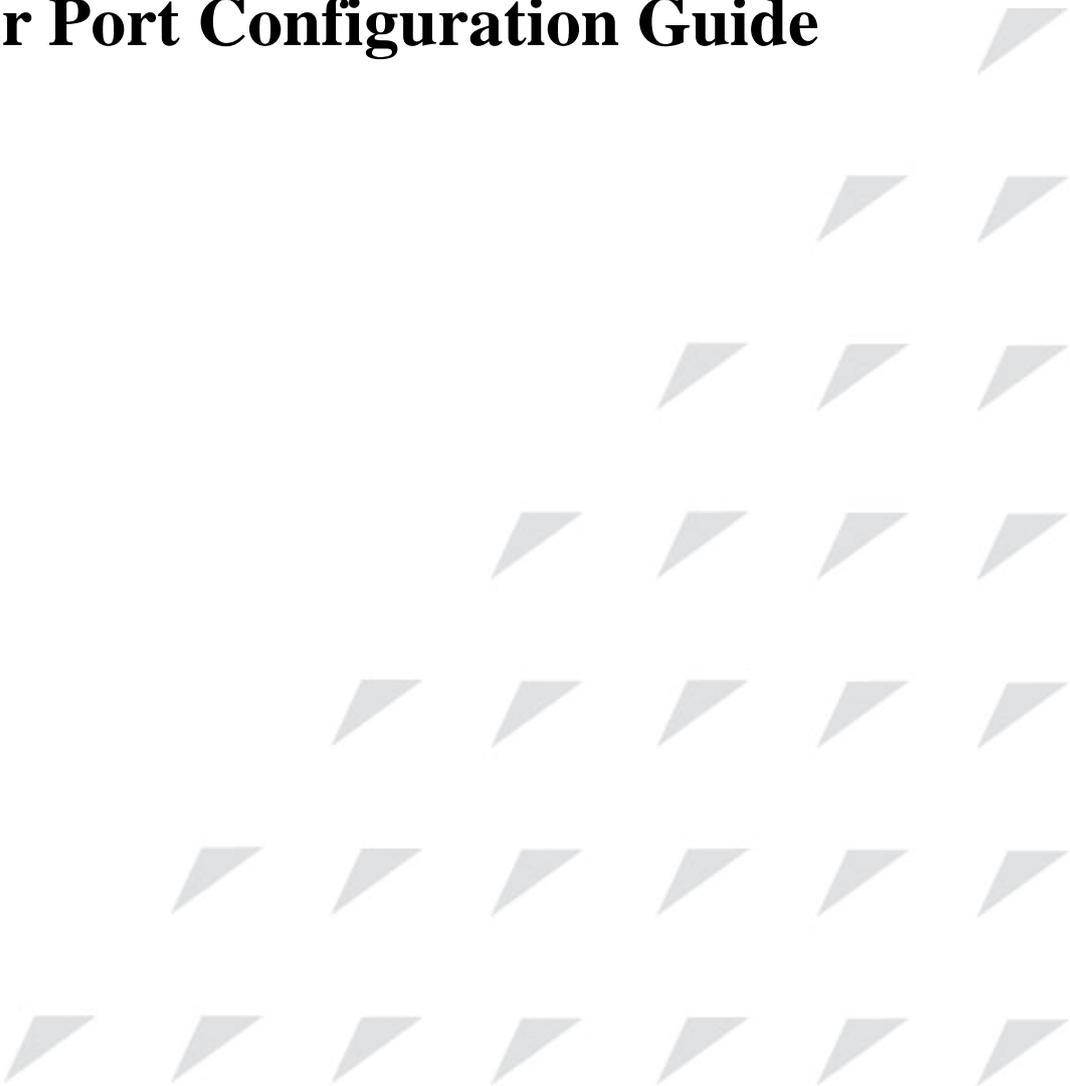


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# **Three-Layer Port Configuration Guide**



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We hope to hear from you!

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## Release Notes

Date of Release	Manual Version	Software Version	Revisions

# Preface

## About This Manual

This manual introduces primary functions of the configuration management software for RC series products.

## Who Should Read This Manual

This manual is a valuable reference for sales and marketing staff, after service staff and telecommunication network designers. For those who want to have an overview of the features, applications, structure and specifications of ... device, this is also a recommended document.

## Relevant Manuals

《Raisecom NView System User Manual》

《Raisecom Nview System Installation and Deployment Manual》

《... User Manual》

《... Commands Notebook》

## Organization

This manual is an introduction of the main functions of ... EMS. To have a quick grasp of the using of the EMS of ... , please read this manual carefully. The manual is composed of the following chapters

### Chapter 1 Overview

This chapter briefly introduces the basic function of ...

### Chapter 2 Configuration Management

This chapter mainly introduces the central site configuration management function of the ....

### Chapter 3 Performance Management

This chapter focuses on performance management function of ....

### Chapter 4 Device Maintenance Management

This chapter introduces the device maintenance management function of ....

### Appendix A Alarm Type

The alarm types supported by ....

## Compliance

The RC series products developed by Raisecom are strictly complied with the following standards as well as ITU-T, IEEE, IETF and related standards from other international telecommunication standard organizations:

YD/T900-1997 SDH Equipment Technical Requirements - Clock

YD/T973-1998 SDH 155Mb/s and 622Mb/s Technical conditions of optical transmitter module and receiver module

YD/T1017-1999 Network node interface for the Synchronous Digital Hierarchy (SDH)

YD/T1022-1999 Requirement of synchronous digital hierarchy (SDH) equipment function

YD/T1078-2000 SDH Transmission Network Technique Requirements-Interworking of Network Protection Architectures

YD/T1111.1-2001 Technical Requirements of SDH Optical Transmitter/Optical Receiver Modules—2.488320 Gb/s Optical Receiver Modules

YD/T1111.2- 2001 Technical Requirements of SHD Optical Transmitter/Optical Receiver Modules—2.488320 Gb/s Optical Transmitter Modules

YD/T1179- 2002 Technical Specification of Ethernet over SDH

G.703 Physical/electrical characteristics of hierarchical digital interfaces

G.704 Synchronous frame structures used at 1544, 6312, 2048, 8448 and 44 736 kbit/s hierarchical levels

G.707 Network node interface for the synchronous digital hierarchy (SDH)

G.774 Synchronous digital hierarchy (SDH) - Management information model for the network element view

G.781 Synchronization layer functions

G.783 Characteristics of synchronous digital hierarchy (SDH) equipment functional blocks

G.784 Synchronous digital hierarchy (SDH) management

G.803 Architecture of transport networks based on the synchronous digital hierarchy (SDH)

G.813 Timing characteristics of SDH equipment slave clocks (SEC)

G.823 The control of jitter and wander within digital networks which are based on the 2048 kbit/s hierarchy

G.825 The control of jitter and wander within digital networks which are based on the synchronous digital hierarchy (SDH)

G.826 End-to-end error performance parameters and objectives for international, constant bit-rate digital paths and connections

G.828 Error performance parameters and objectives for international, constant bit-rate synchronous digital paths

G.829 Error performance events for SDH multiplex and regenerator sections

G.831 Management capabilities of transport networks based on the synchronous digital hierarchy (SDH)

G.841 Types and characteristics of SDH network protection architectures

G.842 Interworking of SDH network protection architectures

G.957 Optical interfaces for equipments and systems relating to the synchronous digital hierarchy

G.691 Optical interfaces for single channel STM-64 and other SDH systems with optical amplifiers

G.664 Optical safety procedures and requirements for optical transport systems

I.731 ATM Types and general characteristics of ATM equipment

I.732 ATM Functional characteristics of ATM equipment

IEEE 802.1Q Virtual Local Area Networks (LANs)

IEEE 802.1p Traffic Class Expediting and Dynamic Multicast Filtering

IEEE 802.3 CSMA/CD Access Method and Physical Layer Instruction

## Chapter 1 Three-Layer Port Configuration Guide

This chapter gives an introduction to how to configure and maintain the switch three-layer port, which includes:

- ✧ There-layer port introduction
- ✧ Three-layer port configuration
- ✧ Monitoring and maintaining
- ✧ Typical configuration example
- ✧ Three-layer port configuration debugging

### 1.1 Three-layer port introduction

ISCOM switch three-layer port is based on VLAN virtual port configuration, which is for network facility management. To the VLAN that needs router function, a related virtual three-layer port can be set for it. Three-layer port shows as IP address, and every three-layer port has a IP address and relate at least one VLAN.

### 1.2 Three-layer port configuration

At present, to ISCOM two-layer switch, 15 virtual three-layer ports can be configured, range is 0-14; to ISCOM three-layer switch, 63 virtual three-layer ports can be configured, range is 0-62.

The process of creating three-layer port and configuring IP address is shown below:

Step	Command	Description
1	config	Enter global configuration mode
2	<b>Interface ip</b> <0-ifNum>	Enter Ethernet three-layer port configuration mode
3	<b>ip address ip-address</b> [ip-mask] vlanlist	Set three-layer port IP address and related static VLAN ID

### 1.3 Monitoring and maintaining

In privileged EXEC mode, use **show interface ip** to show three-layer port configuration state. By looking over the information shown, user can validate the configuration effect.

Command	Description
<b>show interface ip</b> <0-ifNum>	Show three-layer information

### 1.4 Typical configuration example

Set ISCOM switch IP port 1 address to 20.0.1.4, subnet mask to 255.255.255.0, and relate VLAN 1.

```
Raisecom #config
```

```
Raisecom (config)#interface ip 1
```

Raisecom (config-ip)#**ip address** 20.0.1.4 255.255.255.0 1

## 1.5 Three-layer interface configuration debugging

Fault appearance: ISCOM switch can not connect the host by **ping**.

Debugging step:

Step 1: check out if the switch configuration is correct, use **show arp** to show if there is host ARP table unit in the ARP table.

Step 2: check out which VLAN the port that connect the switch and the host belongs to, if the VLAN belongs to the IP interface that is configured, if the IP address and the host belong to the same network segment.

Step 3: if the configuration is correct, open ARP debugging on-off on the switch, and check out if the switch has sent and receive ARP message correctly. If there is only message sent out, while no message received, then there may be problem in Ethernet physical layer.



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